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10/790,930	03/01/2004	Yoshiki Ishii	1232-5318	3251

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EXAMINER	
HENN, TIMOTHY J	

ART UNIT	PAPER NUMBER
2622	

NOTIFICATION DATE	DELIVERY MODE
12/24/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/790,930	ISHII, YOSHIKI	
	Examiner	Art Unit	
	Timothy J. Henn	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 October 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) *10,12 and 14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,11,13 and 15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 September 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 7-9, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (JP 2001-197347) in view of Parulski (US 6,539,177) in view of Kikuzawa (JP 2000-278592).

[claim 1]

Regarding claim 1, Itou discloses a signal processing apparatus (Figure 1, Item 60) which changes a magnification ratio of an image acquired by image sensing means (Figure 1, Item 20), comprising: first processing means for executing first signal processing for reducing a number of pixels to be recorded than that of the acquired pixels when the magnification ration of the image is to be increased (e.g. Paragraph 0010 and 0041; obtaining image data from a selected range or "cropping"); second signal processing means for executing second signal processing for increasing a number of pixels to be recorded when the magnification ratio of the image is to be

increased (interpolation; Paragraphs 0010 and 0042-0044; it is noted that the interpolation of the second signal processing acquires a small number of pixels from the center of the image and increases that number to a larger number as claimed); optical zoom controlling means for controlling lens optical system when the magnification ratio is to be increased (Figure 1, Item 42; Paragraph 0019); first detection means for detecting selection of zooming using a zoom key (Figure 1, Item 118; Paragraphs 0038-0040); second detection means for detecting a limit of an increase in magnification ratio of the image by the first signal processing (Paragraph 0042; judgment section 260) and selection means for selecting one of a first mode and a second mode (Paragraph 0042); wherein when the first detection means detects that a zoom operation is continuously selected after transition from a control of the lens system by the optical zoom controlling means to the first signal processing (Paragraph 0055), the first signal processing is executed and when the second detection means detects that the increase in magnification ratio of the image by the first signal processing means has reached the limit, the second signal processing means is subsequently executed (Paragraph 0042). Itou discloses warning a user when further zooming of an image may result in a less than optimal picture prior to performing the second signal processing and does not explicitly disclose a first mode which performs the second signal processing without inhibiting and a second mode which inhibits the second signal processing.

Parulski discloses a digital camera in which different modes can be set for beginner, intermediate and advanced users that control the number and type of messages a camera relates to a user during image capture (c. 19, l. 60 - c. 20, l. 65).

The camera of Parulski includes modes which give suggestions regarding the zooming state of an image and at least a mode in which all suggestions are turned off (c. 19, l. 64 - c. 20, l. 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include modes as described by Parulski to allow a user to turn off the warning message generated when further zooming is instructed if the user does not desire to receive such messages from the camera. The examiner notes that in an "off" mode the second signal processing would not be inhibited and in an "on" (i.e. beginner) mode, the second signal processing would be inhibited. While Itou in view of Parulski discloses a zoom button and a first detection means, the zoom button and detection means is not explicitly disclosed as including a telephoto side and a wide angle side or a predetermined maximum ratio for electronic zoom.

Kikuzawa discloses a camera with telephoto and wide angle zoom buttons used to control zooming (Figure 1, Items 22-24). Kikuzawa further discloses that limits may be placed on the electronic zoom operation so that the zooming is fixed to a maximum ratio even if a telephoto button is further pressed (Figure 4, Items 205-207). Therefore, it would be obvious to include a zoom button and predetermined maximum zoom ratio as claimed so that the user could easily control the zoom operation and prevented from selecting a zoom setting above a desired limit.

[claim 7]

Regarding claim 7, Itou discloses enlarging the signal by the second signal processing (Paragraph 0044; interpolation).

[claim 8]

Regarding claim 8, Itou in view of Parulski disclose a signal storage apparatus for storing the image (Figure 1, Item 76; Paragraph 0033). For further details see the rejection of claim 1.

[claim 9]

Regarding claim 9, Itou in view of Parulski discloses a signal processing apparatus (e.g. Itou, Figure 1, Item 60); optical variable magnification means for changing a view angle of an object image formed on a light receiving surface of the image sensing means (Figure 1, Item 22 and Item 30) wherein the variable magnification by the optical variable magnification means is executed in first signal processing (Paragraph 0038-0040). For further details see the rejection of claim 1.

[claim 11]

Claim 11 is a method claim corresponding to apparatus claim 1. Therefore, claim 11 is analyzed and rejected as previously discussed with respect to claim 1 above.

[claim 13]

Claim 13 is a program claim corresponding to apparatus claim 11. Official Notice is taken that it is notoriously well known in the art to implement image processing methods and camera control methods in programs to make use of general purpose processors and to not require the creation of application specific circuits. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the method of claim 11 in a program to construct the camera using general purpose processors.

4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (JP 2001-197347) in view of Parulski (US 6,539,177) in view of Kikuzawa (JP 2000-278592) in view of Hashimoto (US 4,910,599).

[claim 2]

Regarding claim 2, Itou in view of Parulski discloses a first signal processing means which reduces an amount of image data, but do not explicitly disclose how this operation is carried out.

Hashimoto discloses an imaging apparatus including an electronic zooming operation in which a reduced amount of data is obtained. The system of Hashimoto uses varying reading signals in order to obtain the needed data while reading out unnecessary portions of the image at a high frequency in a blanking period (c. 5, l. 58 - c. 6, l. 2). Hashimoto further discloses that a LPF operation is necessary to eliminate degradation of the image due to inclusion of vertical stripes (c. 15, l. 29-58). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use varying reading signals and a LPF to obtain a reduced image since such an operation is known in the art as an effective method for performing an electronic zooming operation. The examiner notes that a LPF inherently limits a spatial frequency band as claimed.

[claim 3]

Regarding claim 3, Hashimoto discloses changing a frequency characteristic of the spatial frequency band limit in accordance with the variable magnification ratio (Figures 13 and 14).

5. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (JP 2001-197347) in view of Parulski (US 6,539,177) in view of Kikuzawa (JP 2000-278592) in view of Hirose et al. (US 5,838,371).

[claim 4]

Regarding claim 4, Itou in view of Parulski discloses second signal processing means which interpolates an image signal, but does not disclose edge enhancement.

Hirose discloses that in an electronic zooming operation, horizontal and vertical resolutions of the image can be degraded resulting in a low apparent resolution and that to improve the apparent resolution edge enhancement should be performed (c. 1, ll. 16-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include edge enhancement in the second signal processing means to increase the apparent resolution of the resulting image.

[claim 5]

Regarding claim 5, Hirose further discloses that the degree of edge enhancement should change in accordance with the magnification ratio (e.g. c. 2, ll. 41-60) to avoid overcorrection of the image.

[claim 6]

Regarding claim 6, Itou discloses a zoom switch for commanding a zoom operation (e.g. Figure 1, Item 118). It is noted that if a zoom command is not input, i.e. a magnification of x1, the first and second signal processing will not be performed.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itou (JP 2001-197347) in view of Kikuzawa (JP 2000-278592).

[claim 15]

Regarding claim 15, Itou discloses an image sensing apparatus which has an optical zoom function (Figure 1, Item 22) and an electrical zoom function (Figure 1, Item 60) and in which a sensed image sensed at a photographing magnification ratio covered by the optical zoom function is recorded as a reduced image obtained by reducing the sensed image to an image having a predetermined number of pixels smaller than a number of pixels of the sensed image (i.e. an output resolution; Paragraph 0036), and when photographing at a magnification ratio more than a maximum photographing magnification ratio covered by the optical zoom function is instructed, an image generated from the sensed image by using the electrical zoom is recorded (Paragraphs 0038-0040), comprising: storage means for storing a set value representing, of photographing magnification ratios that the electrical zoom function copes with, a first maximum magnification ratio that is to be used in image sensing (i.e. a condition at which the use of first zoom processing is halted and second zoom processing is started; Paragraphs 0036 and 0042); first electrical zoom means for extracting a first enlarged image from the sensed image at a magnification ratio between the maximum magnification ratio covered by the optical zoom function and the first maximum magnification ratio (e.g. Paragraph 0010 and 0041; obtaining image data from a selected range or "cropping"); second electrical zoom means for extracting a partial image from the first enlarged image at a magnification ratio greater than the first

magnification ratio (interpolation; Paragraphs 0010 and 0042-0044) and switching means for switching, in accordance with the set value, between image sensing which is to be executed using both the first electrical zoom means and the second electrical zoom means and image sensing which is to be executed using only the first electrical zoom means (Paragraphs 0041-0044; Figure 5). However, Itou does not disclose a second maximum magnification ratio as claimed.

Kikuzawa further discloses that limits may be placed on the electronic zoom operation so that the zooming is fixed to a maximum ratio even if a telephoto button is further pressed (Figure 4, Items 205-207; e.g. a second maximum magnification ratio). Therefore, it would be obvious to include a predetermined maximum zoom ratio as claimed so that the user could easily control the zoom operation and prevented from selecting a zoom setting above a desired limit. It is noted that the second electrical zoom means as described by Itou would be used when the magnification ratio is greater than the first maximum magnification ratio, but less than the second maximum magnification ratio as claimed.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

i. Kikuzawa, US 6,982,755, is an English language version of Kikuzawa, JP 2000-278592

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Henn whose telephone number is (571) 272-7310. The examiner can normally be reached on M-F 11-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David L. Ometz/
Supervisory Patent Examiner, Art Unit 2622

TJH
12/18/2008